## WHAT IS CLAIMED IS:

1		1.	A method for loading a disaccharide into mammalian nucleated cells,			
2	comprising:					
3		contac	ting said cells for at least 2 hours with a solution comprising at least one			
4	disaccharide,	thereby	loading the cells with disaccharide to produce disaccharide-loaded			
5	mammalian n	mammalian nucleated cells.				
1		2.	A method of claim 1, wherein said cells are selected from the group			
2	consisting of		lls, immune system cells, and epithelial cells.			
2	consisting of	Stom Co.	ns, minute system cons, and optational cons.			
1		3.	A method of claim 1, wherein said contacting is for 10 hours.			
1		4.	A method of claim 1, wherein said contacting is for 24 hours.			
1		5.	A method of claim 1, wherein said disaccharide is trehalose.			
1		6.	A method of claim 1, wherein said solution further comprises not more			
2	than 3% dime	than 3% dimethyl sulfoxide.				
1		7.	A method for increasing survival of mammalian nucleated cells			
2	following dr					
3	ionowing ury	ying and rehydration, comprising:  (a) contacting said cells with a solution comprising at least one disaccharide				
4	for at least 2	r at least 2 hours, thereby producing disaccharide-loaded cells,				
5	ioi at ioast 2					
6	0.2 and 0.5 a	(b) drying said disaccharide-loaded cells to a residual water content between				
7	0.2 and 0.3 g	0.2 and 0.5 gram water per gram of dry weight, and				
8	thereby incre	(c) rehydrating said cells, thereby increasing survival of the cells.				
0	mereby mere	asmg su	dividal of the cons.			
1		8.	A method of claim 7, wherein said contacting is for 24 hours.			
1		9.	A method of claim 7, wherein said cells are selected from the group			
2	consisting of stem cells, immune system cells, and epithelial cells.					
1		10.	A method of claim 7, wherein said disaccharide is trehalose.			
1		11.	A method of claim 7, wherein said cells further comprise a heat shock			
2	protein.					

1 12. A method of claim 11, wherein said heat shock protein is induced by 2 exposing said cells to a heat shock.

- 1 13. A method of claim 12, wherein said heat shock consists of raising the temperature of medium contacting the cells to 42 44 °C for one hour, and then allowing the temperature of the medium to drop to 36-38 °C.
- 1 14. A method of claim 11, wherein said heat shock protein is introduced 2 into the cells by contacting said cells with a solution comprising said protein.
- 1 15. A method of claim 11, wherein said heat shock protein is expressed 2 from a nucleic acid sequence introduced into said cells.
- 1 16. A method of claim 11, wherein said heat shock protein is p26 from 2 Artemia franciscana.
- 1 17. A method of claim 7, further wherein said cells are contacted with a solution comprising an apoptosis inhibitor.
- 1 18. A method of claim 17, wherein said apoptosis inhibitor is selected
- 2 from the group consisting of N-(2-Quinolyl)valyl-aspartyl-(2,6-difluorophenoxy)methyl
- 3 ketone (in which the aspartyl residue is o-methylated or non-o-methylated), caspase I
- 4 inhibitor II, calpain inhibitor, and Bcl-xL.
- 1 19. A method of claim 7, further wherein said cells are contacted by a solution comprising arbutin or hydroquinone, provided that said cells are not 293 cells or B cells.
- 1 20. A method of claim 7, further wherein said cells are contacted by a solution comprising not more than 3% dimethyl sulfoxide.
- 1 21. A method of claim 7, further wherein said cells are contacted by a solution comprising a heat shock protein and an apoptosis inhibitor.
- 1 22. A method of claim 21, wherein said solution further comprises not 2 more than 3% dimethyl sulfoxide.

1	23. A method of claim 19, wherein said cells are dried in a medium				
2	comprising arbutin or hydroquinone.				
1	24. A method of claim 7, wherein said cells are dried in rounded droplets				
2	of drying buffer.				
1	25. A method for increasing survival of mammalian nucleated cells				
2	following drying and rehydration, comprising:				
3	(a) contacting said cells with a solution comprising an apoptosis inhibitor,				
4	thereby loading the cells with said apoptosis inhibitor, to produce apoptosis inhibitor -loaded				
5	cells,				
6	(b) drying said apoptosis inhibitor-loaded cells, and				
7	(c) rehydrating said cells,				
8	thereby increasing survival of the cells.				
1	26. A method of claim 25, wherein said apoptosis inhibitor is selected				
2	from the group consisting of N-(2-Quinolyl)valyl-aspartyl-(2,6-difluorophenoxy)methyl				
3	ketone (in which the aspartyl residue is o-methylated or non-o-methylated), Caspase I				
4	inhibitor II, Calpain inhibitor, and Bcl-xL.				
1	27. A method of claim 25, wherein said cells are selected from the group				
2	consisting of stem cells, immune system cells, and epithelial cells				
1	28. A method of claim 25, wherein said cells are dried in droplets of				
2	drying buffer.				
ı	29. A method for increasing survival of mammalian nucleated cells				
2	following drying and rehydration, comprising:				
3	(a) introducing a heat shock protein into, or inducing production of a heat				
4	shock protein in, said cells, to produce heat shock protein-loaded cells,				
5	(b) drying said heat shock protein-loaded cells, and				
5	(c) rehydrating said cells,				
7	thereby increasing survival of the cells.				
1	30. A method of claim 29, wherein said heat shock protein is p26 from				

Artemia franciscana.

into said cells by inc	A method of claim 29, wherein said heat shock protein is introduced ubating said cells in a medium comprising said heat shock protein.			
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32.	A method of claim 29, wherein said heat shock protein is induced in			
said cells by raising	the temperature of medium contacting the cells to 42 - 44 °C for one			
hour, and then allow	ing the temperature of the medium to lower to 36-38 °C.			
33.	A method of claim 29, wherein said heat shock protein is introduced			
into said cells by introducing into said cells a nucleic acid sequence comprising a promoter				
operably linked to a	sequence encoding said heat shock protein.			
34.	A method of claim 29, wherein said cells are selected from the group			
consisting of stem cells, immune system cells, and epithelial cells.				
35.	A method of claim 29, wherein said cells are dried in droplets of			
drying buffer.				
36.	A method for increasing survival of mammalian nucleated cells			
following drying and rehydration, provided said cells are not 293 cells or B cells, comprising				
(a) inc	cubating said cells with a compound selected from arbutin and			
hydroquinone, to pro	droquinone, to produce arbutin- or hydroquinone- loaded cells,			
(b) dry	ying said arbutin- or hydroquinone- loaded cells, and			
(c) rel	nydrating said cells,			
thereby increasing survival of the cells.				
37.	A method of claim 36, wherein said compound of step (a) is arbutin.			
38.	An isolated mammalian nucleated cell comprising a disaccharide and a			
compound selected from the group consisting of arbutin and hydroquinone.				
39.	An isolated mammalian nucleated cell of claim 38, wherein said			
compound is arbutin.				
40.	A mammalian nucleated cell of claim 38, wherein said cell is dried.			
40.	or or ording 50, whorom said oon is died.			
41.	A mammalian nucleated cell of claim 38, further comprising an			
	said cells by raising thour, and then allow 33.  into said cells by introperably linked to a second 34.  consisting of stem cells 35.  drying buffer.  36.  following drying and (a) incomposition (b) dry (c) rehithereby increasing surface 37.  38.  compound selected from 39.			

1		42.	A mammalian nucleated cell of claim 38, further comprising a heat	
2	shock protein.	•		
1		43.	A mammalian nucleated cell of claim 38, wherein said disaccharide is	
2	trehalose.			
1		44.	An isolated dried mammalian nucleated cell comprising a disaccharide	
2	and an exogenous heat shock protein.			
1		45.	A dried mammalian nucleated cell of claim 44, wherein said	
2	disaccharide is trehalose.			
1		46.	A isolated, dried mammalian nucleated cell comprising a disaccharide	
2	and an exogenous apoptosis inhibitor.			
1		47.	A dried mammalian nucleated cell of claim 46, wherein said	
2	disaccharide is trehalose.			